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OPTION: COMPUTER SCIENCE AND MANAGEMENT THE END OF SECONDARY SCHOOL EDUCATION LEVEL: \mathbf{A}_2

Transport Management System

CASE STUDY: Trinity

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September, 2014

DECLARATION

I, KAZIMILI Sarimu declare that this research project report entitled "TRANSPORT MANAGEMENT SYSTEM" presented for the award of ADVENCED LEVEL CERTIFICATE in COMPUTER SCIENCE and MANAGEMENT. It has never been presented or submitted anywhere.

Student's signature

KAZIMIRI SARIMU

Date: 10/09/2014

CERTFICATION

I Certified that this work entitled to ${\bf TRANSPORT\ MANAGEMENT\ SYSTEM}$ is the original
work done my KAZIMIRI Salimu and have been not presented anywhere to the award of final
year project or other award
Supervisor's signature
RUKWAYA Thomas

DEDICATION

This report is dedicated to my almighty God, who guided and protected me during my studies. I strongly dedicated my work to my parents, particularly to my headmaster and all sisters' assumptions, to my teachers and to my classmates. And is dedicated to my relative friends and their families.

ACKNOWLEDGEMENT

First of all we would like to express my deepest gratitude to lord who praised as to do this project, we acknowledge so much the Workforce Development Authority (**WDA**) who organized the practical exams including project especially for the technical schools.

Greatly our appreciations are for our school **ESSA Nyarugunga**, our teachers especially for those who supported us throughout our studies, for technical hands and for their advices.

ABSTRACT

My application based on Transport management system help to manage all activities is included in this company. all activities needed to computerize the purpose of my application is used to solve all the problems needed to computerize and to make more rapid services in short time compared to the existing system the method I used to restrain those problems is to develop an application for dislodging those problems. I advise to use this application because it makes easy work for retainers like that works go quickly in short time.

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LIST OF SYMBOLS

SYMBOL	NAME	DESCRIPTION
•	Start	A symbol used to show the start of activities in an activity diagram.
	Line	A symbol used to move link between 2 activity or in DFD as line.
	Flow line/Transition link	It is used in activity diagrams as a transition link between 2 activities or in DFD as flow line showing the flow of data into the system.
	Process	A symbol used in a DFD to show a transformation or manipulation of data flows within the system.
	Relationship	A symbols used to make a decision in an actgivity diagram.
	Action	A symbol used to show the relationship of 2 or more entities
	External Entity	A source of data flow between outside the area of study

LIST OF ABREVIATION

WDA: Workforce Development Authority

ADODC: Active Data Object and Data Connection

VB: Visual Basic

DB: Database

MDI: Multiple Document Interface

ODBC: Open **D**atabase Connectivity

ERD: Entity Relationship **Diagram**

IDE: Integrated development environment

GUI: Graphical user interface

OS: operating system

MS: Microsoft

DBMS: Database management system

RDBMS: Relational database management system

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CHAPTER ONE: INTRODUCTION

1.1.Introduction

Transport management system software is an application used to manage all activities located inside of Trinity company .normally in this company there are many activities but a main activity is to carry their customers. and also there are another activities works inside of that company such as customer care ,ticket Reservation ,Employee Situation and so on .the problems are found in this company there are many activities(services) needed to computerize like customer registration, employee registration, ticket Reservation ,Bus registration, Journey situation , and so on. In this Company still using meager method like customer registration on the paper s used a pen, to do other activities using manual system. So is the reason why we make decision to develop application software to avoid that meager methods and manual system.

1.2.Problem statement

The problem of this project is follow:

- Customer registration using a paper with a pen
- Employees registration using notebooks for to register employees
- To missing information because during to register used notebook
- > To get information it takes much time and effort
- Daily journey situation management is very hard
- Buses registration using manual system.

1.3.General objective

The objectives of this project first of all are to use an application system for reducing the problems occurring meager system or to eliminate all of them.

1.4. Specific objectives

To avoid the customer registration using a paper with a pen

- To avoid the employees registration using notebooks
- To increase access control information or the data

1.5.Background of study

In this company used the meager system for management of their activities works in this company but there are other companies have the business the same as this company are used an application software for managing their activities.

1.6. Scope of study

This project will determine the activities are done in the Trinity Company like selling, registration, export and import product by using the software are done in Microsoft visual studio 6.0 and Microsoft office access.

1.7.Importance of the project to the society

Social interest of this project, all activities of company are controlled and secured, So, Transport management system will help to store all activities and historical of their business in the permanently with security.

1.8. Methodology

Methodology refers to nothing more than a simple set of methods or procedures, or it may refer to the rationale and the philosophical assumptions that underlie a particular study relative to the scientific method.

1.8.1. Questionnaires

A questionnaire is a research instrument consisting of a series of questions and their prompts for the purpose of gathering information from respondents. Although they are often designed for statistical analysis of the responses, this is not always the case.

Questionnaires have advantages over some other types of surveys in that they are cheap, do not require as much effort from the questioner as verbal or telephone surveys, and often have standardized answers that make it simple to compile data. However, such standardized answers may frustrate users. Questionnaires are also sharply limited in fact that it must be able to read the

questions and respond to them. Thus, for some demographic groups conducting a survey by

questionnaire may not be practical.

1.8.2. Interviews

Like a conversation, an interview involves two people talking to one another about something

they are interested in. But an interview is more one-sided than a conversation because one

person, the interviewee, talks more and offers more explanations, while the other person, the

interviewer, has to listen very carefully to what is being said and ask follow-up questions. When

you do an interview you must both listen and respond at the same time.

Interviews are particularly useful for getting the story behind a participant's experiences. The

interviewer can pursue in-depth information around the topic. Interviews may be useful as

follow-up to certain respondents to questionnaires, e.g., to further investigate their responses

1.8.3. Observation

There are many positive aspects of the observation research approach namely, observations are

usually flexible and do not necessarily need to be structured around a hypothesis. Observation

research findings are considered strong in validity because the researcher is able to collect a

depth of information about a particular behavior. However, there are negative aspects. In

observation research, findings may only reflect a unique population and therefore cannot be

generalized to others.

1.9. Hardware and Software Tools

1.9.1. Hardware Tools

Model: Presario CQ46 Notebook Pc

Processor: Pentium(R) Dual-Core1 CPU T4500 @ 2.30 GHz

Hard disk Size: 200 GB

1.9.2. Software Tools

System Type: 32-bit Operating System Windows 7

Installed Memory (RAM): 4.00 GB

For Interfaces: Adobe Photo Shop

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Snipping Tools

Photo Instrument

Photoscape

For Coding: Microsoft Visual Studio 6.0

For Database Management System (DBMS): Microsoft Office Access 2007

For Document Report: Microsoft Office Word 2007

For Presentation Document: Microsoft Office Power Point

CHAPTER TWO: ANALYSIS OF EXISTING SYSTEM

2.1. Introduction

As I explain it above I focus on Company called Trinity that usually doing the business of to carrying people .I came know that from Trinity they have a computer but until now they haven't any software help them to manage their activities.

2.2. Presentation of Trinity Company

Trinity Company is located at Nyarugenge district in Kigali province at the near road of Kigali city in the direction of Nyabugogo neighborhood.

2.3. ICT materials used in existing system

I came know that from Trinity used in their company computers used to register their pilgrims using Microsoft office word 2007 and Microsoft office excel 2007), Printers used for printing the Reports of dialing activity situations.

2.4. Disadvantages of using existing system

- They can record on hard copies that can be lost: paper is the storage of information's about materials but at any it can be lost.
- It takes to record items: the time taken to search for paper, recording and storing them, it's a long time than the time you can use writing using the computer.
- The record on hard copies can be easily.

2.5. Proposed Solutions

To the above problems we propose the following solutions:

- Design a database which will contain all information about the company,
- Design software which can interact with the database,
- Integrated in the software the reporting mechanism.

With these solutions we believe that entering data in system, searching it, updating it, producing reports will be an easy task than what it is today.

Advantages of project

First of all the main advantages of my project is to increase the speed in the activities located at Trinity particular to the different activities related on the computerization activities such as Pilgrims registration ,to produce a ticket to their pilgrims .it sounds that of course the development will increase also in terms economics of their company

CHAPTER THREE: LOGICAL DESIGN OF THE NEW SYSTEM AND SYSTEM

IMPLEMENTATION

3.1. Introduction

On this chapter I ingrain on the process of my project is designed either Database or project

design. as I quickly to explain this one this application composed by two users .there is a user

called Manager as an administrator user of this application another is called seller as an another

user of this application. During the design of this application I used the different tools as you will

see on the next pages with the tables which are contains this application and the different

activities according to each user.

3.2. Interpretation of hardware and software tools

3.2.1. Hardware tools

Model: Presario CQ46 Notebook Pc

Processor: Pentium(R) Dual-Core CPU T4500 @ 2.30 GHz

Hard disk Size: 200 GB

3.2.2. Software tools

3.2.2.1. Microsoft Office Access (2007)

Microsoft access is a powerful program to create and manage your database it has many built in

features to assist one in constructing and viewing one's information.

SQL (Structured Query Language): is a data base computer language designed for managing

data in relational data base management system (RDMS). Its scope includes data query and

update schema creation and modification and data access control It is mostly widely used

language for relational database

3.2.2.2. Visual Basic 6.0

Visual Basic 6.0 is a third event driven programming language and integrated development

environment (IDE) from Microsoft.

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Why choose visual basic?

Visual basic is easy to learn.

With visual basic you can develop windows based application and games.

Visual basic is easier to learn than other language (like Visual C++) and yet it is a powerful

programming language.

System Type (32-bit Operating System Windows 7): is a system used by the computer to

control all activities managed the users, hardware and application program.

Installed Memory (RAM): 4.00 GB: is used to keep data temporary during the execution of

program

For Interfaces: Adobe Photo Shop

Snipping Tools

Photo Instrument

Photoscape

Microsoft Office power point: PowerPoint presentations consist of a number of individual

pages or "slides". The "slide" analogy is a reference to the slide projector. A better analogy

would be the "foils" (or transparencies/plastic sheets) that are shown with an overhead projector,

although they are in decline now. Slides may contain text, graphics, sound, movies, and other

objects, which may be arranged freely. The presentation can be printed, displayed live on a

computer, or navigated through at the command of the presenter. For larger audiences the

computer display is often projected using a video projector. Slides can also form the basis

of webcasts.

Microsoft office word:

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3.3. Use case Diagram

A **use case diagram** at its simplest is a representation of a user's interaction with the system and depicting the specifications of a <u>use case</u>. A use case diagram can portray the different types of users of a system and the various ways that they interact with the system. This type of diagram is typically used in conjunction with the textual <u>use case</u> and will often be accompanied by other types of diagrams as well

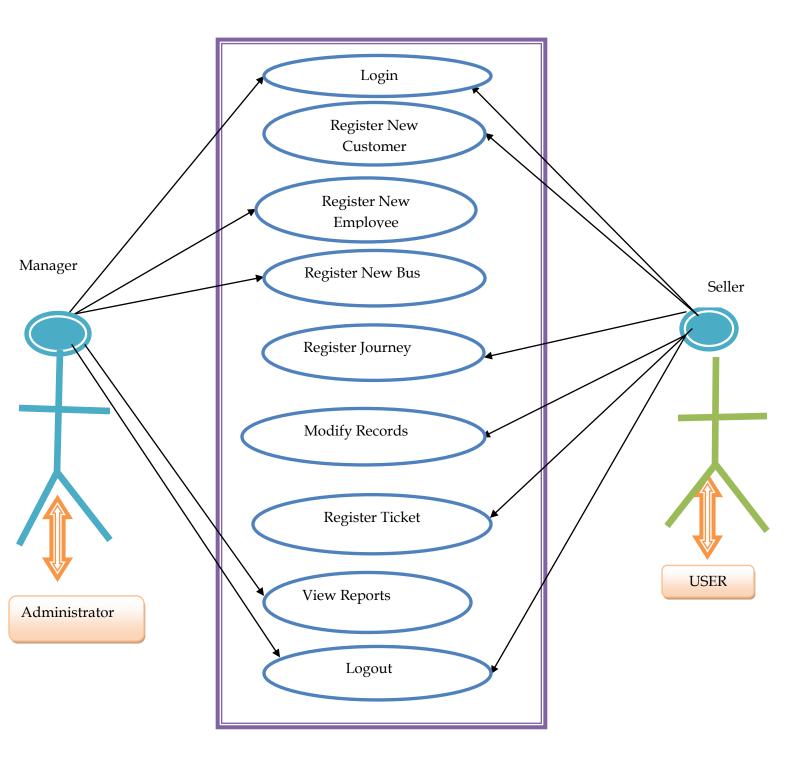
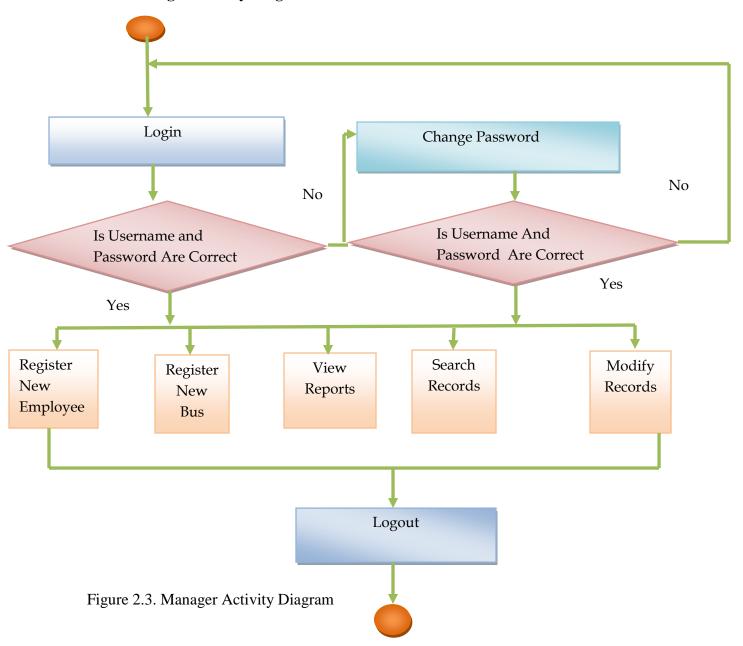


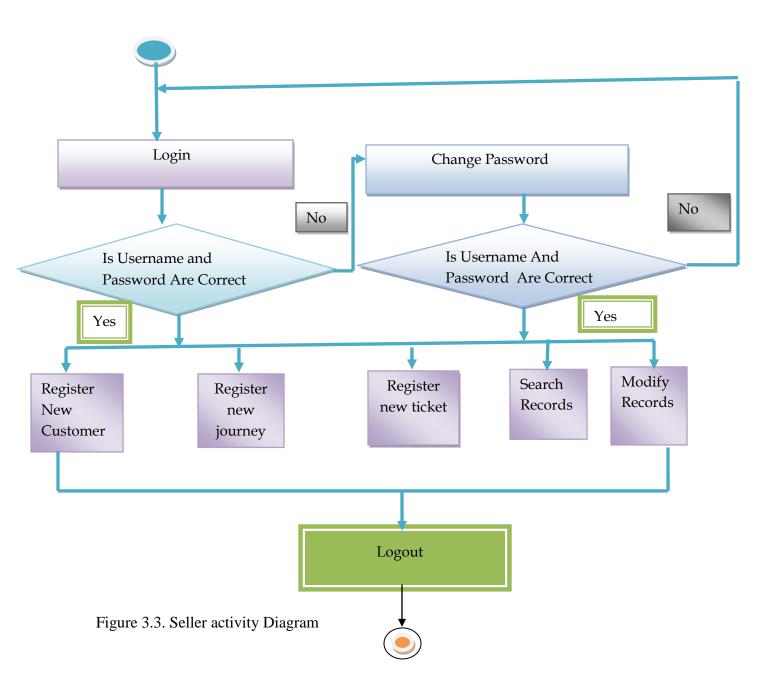
Figure 1.3. Use case Diagram3.4. Activity Diagram

Activity diagram demonstrate the different activities located in project according to the activities allowed by a user .the activities allowed by each user is appeared to the figure below

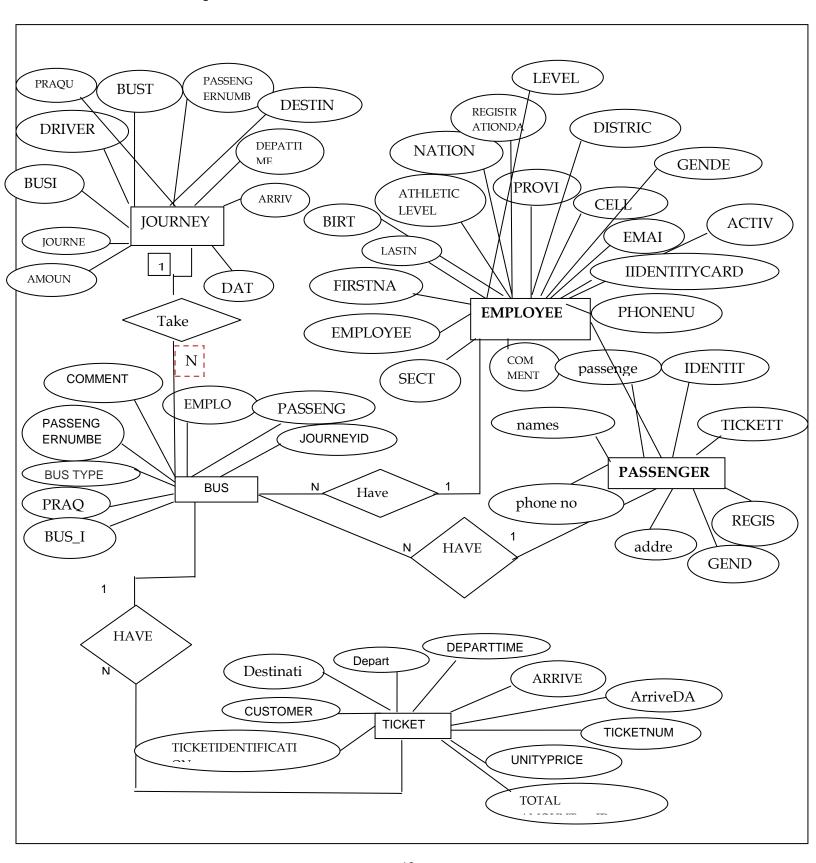
3.4.1. Manager Activity Diagram or Administrator



3.4.2. Seller Activity Diagram or User

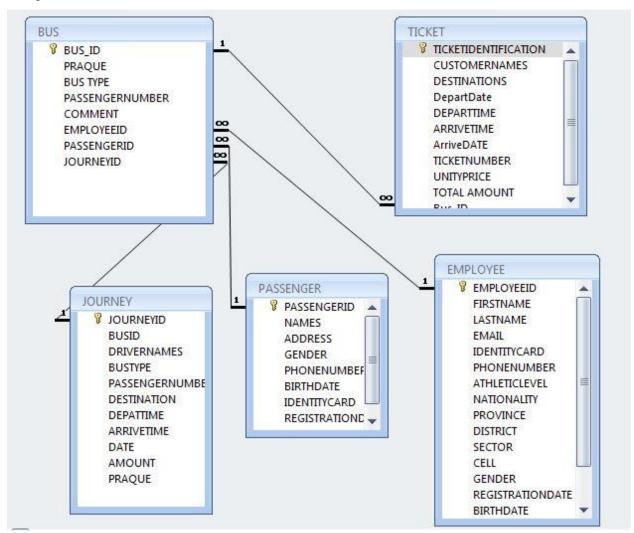


3.5. Data Conceptual Model



3.6. Entity Relation Ship Diagram (PHYSICAL MODEL DATA)

Entity Relation Ship Diagram consist the relationships of table consists my database as you see on figure follow:



3.7. Data Dictionary

A data dictionary is an integral part of a database which holds information about the database and the data stores. Any well-designed database will surely include a data dictionary; it provides database administrators and other users, easy access to the type of data that they expect to see in every table, row and column of the database, without actually accessing the database. A data dictionary is a simple yet effective add-on to ensure data consistency.

Some of the typical components of data dictionary are:

Name of the fields in each table, Data type of the field (integer, date and Time,) Brief description of the expected data for each field, Length of the field, default value for that field, is the field null or not null, Constraints that apply to each field.

3.8. Representation of Data Dictionary

Ticket

Field Name	Description	Data Type	Constraint
TicketId	Ticket Identification	Number	Primary Key
PassangerNames	A Name of	Text	Not Null
	Passenger		
Destination	Car Destunation	Text	Not Null
Car Plaques	Plaques of Car	Text	Not Null
Depart Time	Depart Time of Car	Date/Time	Not Null
Arrive Time	Arrive Time of car	Date/Time	Not Null
Date	Registration Date	Date/Time	Not Null
Ticket Number	Number of ticket	Number	Not Null
Unity Price	Initial value for one ticket	Number	Not Null
Total Amount	Total Amount of all Tickets	Number	Not Null

Table 1.3. Ticket Table

Employee Table

Field Name	Description	DataType	Constraint
FirstName	A name of Employee	Text	Not Null
Employee Id	Employee Identification	Number	Primary Key
Gender	Sex Of Employee	Text	Not Null
Last Name	Other Name Of Employee	Text	Not Null
Nationality	Nationality Of Employee	Text	Not Null
Province	Province Name	Text	Not Null

District	District Name	Text	Not Null
Sector	Sector Name	Text	Not Null
Cell	Cell Name	Text	Not Null
Village	Village Name	Text	Not Null
Department	Department Name	Text	Not Null
Email Address	Email Address Of Employee	Text	Not Null
Activity	Activity of Employee	Text	Not Null
Athletic Level	Level of Employee	Text	Not Null
Date Of Birth	Birth Date of Employee	Date/Time	Not Null
Registration Date	Registration Date	Date/Time	Not Null
Identity	Identity Number of Employee	Text	Not Null
Level Studies	Level Studies Of Employee	Text	Not Null
Comment	Employee comment	Text	Not Null

Table 2.3.Employee Table

Passenger Table

Field Name	Description	Data Type	Constraint
PassengerId	PassengerIdentification	Number	Primary Key
Passenger Names	Names of Passenger	Text	Not Null
Address	Address of Passenger	Text	Not Null
Gender	Address of Passenger	Text	Not Null
Phone Number	Phone Number of Passenger	Text	Not Null
Identity Card	Identity Card of Passenger	Text	Not Null
Registration Date	Passenger Registration	Text	Not Null
Ticket Transaction	Ticket Registration Name	Text	Not Null

Table 3.3.Passengers Table

Journey Table

Field Name	Description	Data Type	Constraint
Bus Id	Bus Identification	Number	Primary Key
Driver Names	Names of Driver	Text	Not Null
Type of Bus	Bus Type	Text	Not Null
Passenger Number	Number of	Number	Not Null
	Passenger		
Destination	Destination of car	Text	Not Null
Depart Time	Departure time for	Date/Time	Not Null
	car		
Arrive Time	Arrive date of car	Date/Time	Not Null
Date	Registration date	Date/Time	Not Null
Amount	Cost of car	Number	Not Null
Praque	Praques of Car	Text	Not Null

Table 4.3. Journey Table

Bus Table

Field Name	Description	Data Type	Constraint
BusId	Bus Identification	Number	Primary Key
Praques of Bus	Praques of Bus	Text	Not Null
Types of bus	Kind of Bus	Text	Not Null
Passenger Number	Number of	Number	Not Null
	Passenges		
Comment	Comment for	Text	Not Null
	passengers		

Table 5.3.Bus Table

SYSTEM IMPLEMENTATION

3.9. Introduction

This application composed by the different component such as the interfaces used to navigate an application and to show the instructions required to complete the records depending on the form of you want to enter the records. The some figures show how the system is built to the figures bellow:

4.0. Interfaces

Figure one: Splash



Figure 4.3. Splash form

This is a form called splash form introduced by my application used to show a user my project is determined by what and what is it?

Figure Two: Login



Figure 5.3. Login Form

This is a login form used to enter in the system with security .before to enter in the system a user must be carefully to the username and password are entered .

Figure Four: MDI Form



Figure 6.3.MDI form

This is multiple document interface used to load another forms at the same time.

Figure Six: New Employee Registration

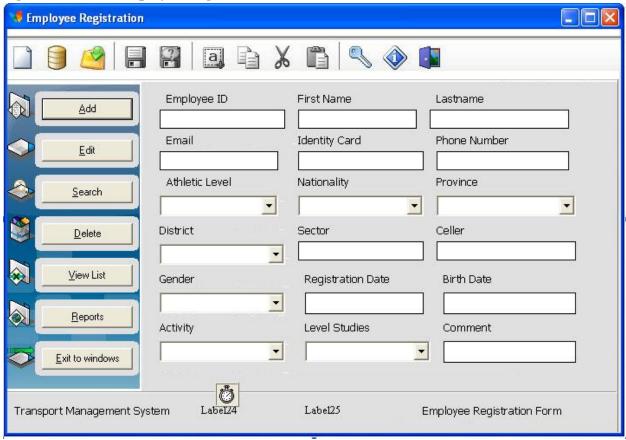


Figure 7.3. Employee Registration

This is a form of employee used to enter the details of employee or employee information. According to the figure to keep the useful information of employee is to click on save button .to modify those details is to click on Edit button. To delete all information about Employee is to click on delete button .for searching employee is to use employee id used search button. For using another buttons related on the employee like pictures as the same as this form is look like is to move a cursor to search text then write the employee id do you want to search then after click on search button for searching Employee.

Figure Thirteen: New Bus Registration



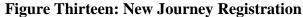
This is the form of bus registration used to enter the details of bus or bus information. According to the figure to keep the useful information of bus and to know the new bus to registration that bus.

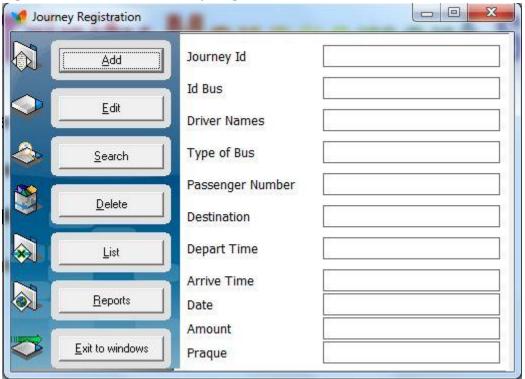
Figure Thirteen: New Ticket Registration

Ticket Identification		
Customer Names		
Destination		(4)
Depart Date		
Depart Time		
Arrive Time		
Arrive Date		
Ticket Number		
Unity Price		
Praques of Car		
Total Amount		
= 19		

This is the form which is containing all information about ticket and also is the most one of main forms of this project because the profit of this company focused on this form.inorder to save

successfully information a user must complete all information required in the text fields on this form

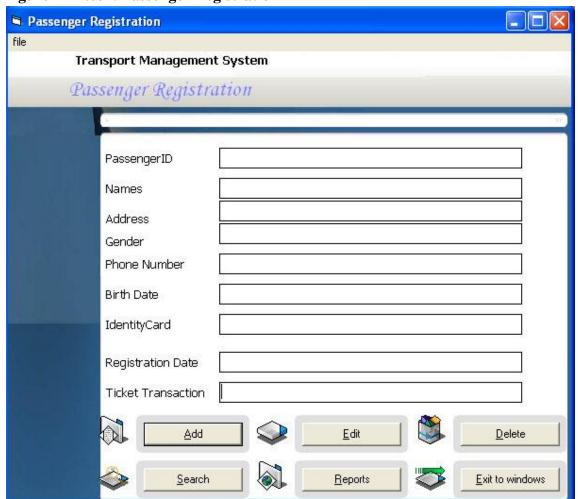




This form of Journey Registration used to keep data permanent related the journey situation for Trinity Company in the different destination. According to the picture above for journey form there are many commands used to keep data such as add as the most of one of command used to store data in the database and search command used to retrieve the current information .means if a user need to search the records of journey was saved the previous period a user must click on search command .also there is delete command used to remove the current information about journey depending the Identification Number. According to delete employee a user must delete records related their identification number (journey id).after search, delete, add commands there is edit command used to update or add new record in database. For edit command remember that also used to refresh a database in order to add new Records in database .another important command visible on this form is Reports command used to show a user the different details of journey depending the journey situation here I'm saying to view report according to the identification number to search from the list he/she can user list command as you have seen on the form. To close window a user must click on exit to windows command but to click on this

command not explain that is to exit all application but rather is to come back on the multiple document interface as the home form of this application. Do not close with red button for windows as to exit all application. And for keeping journey information do not save it with the most one of text fields with an empty space means empty space not allowed for saving journey information. Is the same as to the commands used to enter identification number with input box? Such as reports, delete, search commands as the most commands of this application.

Figure Thirteen: Passenger Registration



This form of Passenger Registration used to keep data permanent related the Passenger for Trinity Company in the different destination. According to the picture above for Passenger form there are many commands used to keep data such as add as the most of one of command used to store data in the database and search command used to retrieve the current information .means if a user need to search the records of Passenger was saved the previous period a user must click on search command .also there is delete command used to remove the current information about journey depending the Identification Number. According to delete Passenger a user must delete

records related their identification number (journey id).after search, delete, add commands there is edit command used to update or add new record in database. For edit command remember that also used to refresh a database in order to add new Records in database another important command visible on this form is Reports command used to show a user the different details of journey depending the Passenger situation here I'm saying to view report according to the identification number, to search from the list he/she can user list command as you have seen on the form. To close window a user must click on exit to windows command but to click on this command not explain that is to exit all application but rather is to come back on the multiple document interface as the home form of this application. Do not close with red button for windows as to exit all application. And for keeping Passenger information do not save it with the most one of text fields with an empty space means empty space not allowed for saving journey information. Is the same as to the commands used to enter identification number with input box? Such as reports, delete, search commands as the most commands of this application

Figure Fifteen: New Employee Registration Report



Figure 8.3.1. Employee Registration Report

This is the Employee Registration Report which is containing the information about the new employees that can be saved at the previous period.

CHAPTER FOUR: CONCLUSION AND RECOMMENDATION

5.1. Conclusion

Transport management system is an application used to sell the different products based on computer with accessories. This application allow 2 two users like Manager as an administrator user of this application another one is seller as the second user of this application.

5.2. Recommendation

According to this application contain many fields and many instructions of programmer in my background .in this project all instructions are block to the different users means that the users I wish to use in this project are Administrator user and Seller user

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